

Hybrid Wetland Chemical Treatment & Floating Aquatic Vegetative Tilling Technologies Overview

Water Resources Advisory Commission
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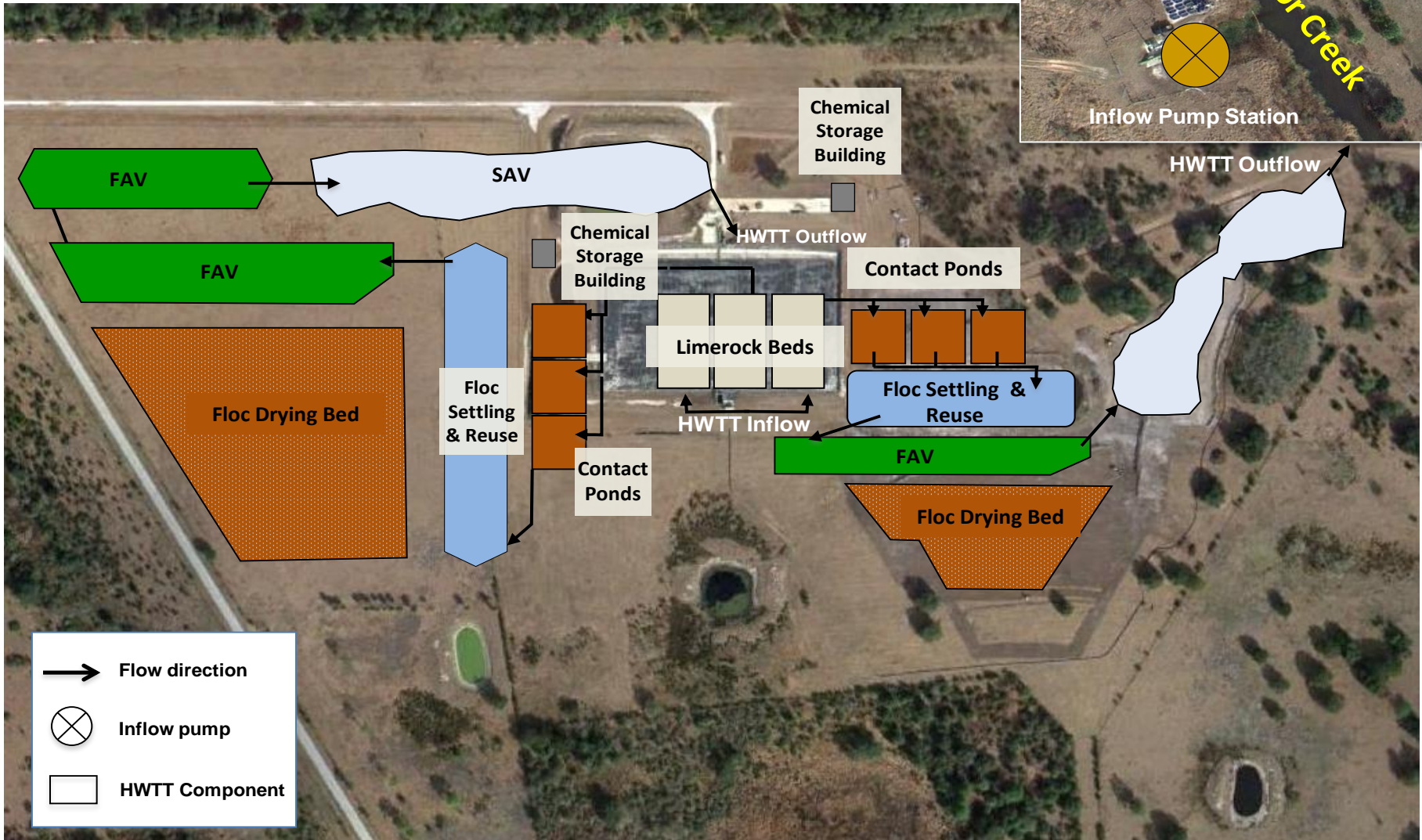


HWTT at-a-glance

- Six sites deployed and operational between 2008 and 2014 – Four more sites will be deployed in 2014-15 (two in Martin County, two in SJRWMD).
- Remove between 67% and 93% of phosphorus.
- Cost per pound of phosphorus removed is competitive with several other technologies.
- Relatively small foot-print.
- Provide environmental benefits via wetland and wildlife habitat restoration and creation.



GRASSY ISLAND HWTT FACILITY AT BUILD-OUT





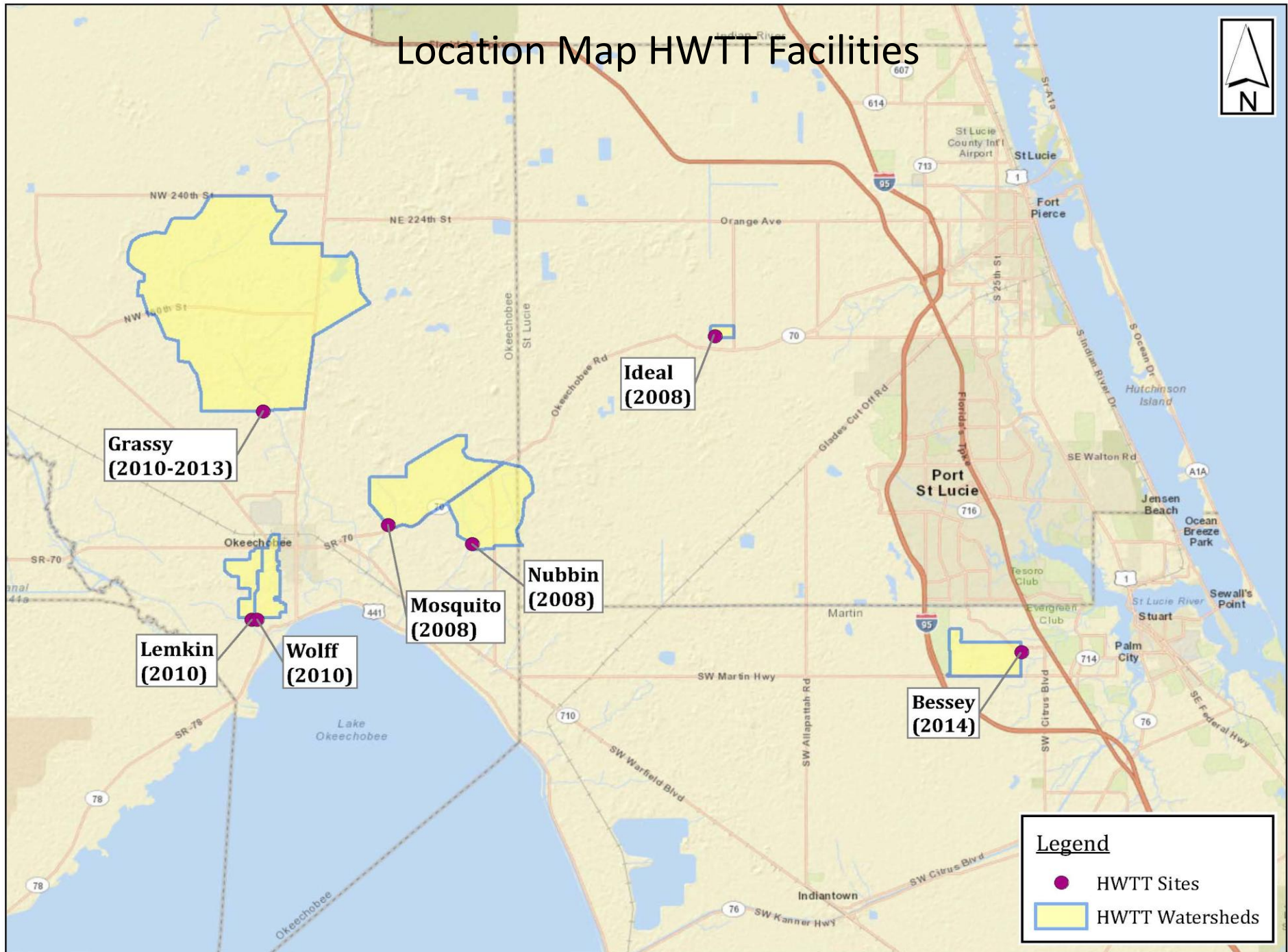


HWTT Current Projects (NEEPP)

- Six existing facilities and two in progress:
 - ❖ Nubbin Slough deployed 2008
 - ❖ Ideal Grove deployed 2008
 - ❖ Mosquito Creek deployed 2008
 - ❖ Lemkin Creek deployed 2010
 - ❖ Wolff Ditch deployed 2010
 - ❖ Grassy Island deployed 2010-2014 (staged)
 - ❖ Bessey Creek to be deployed in 2014-15
 - ❖ Danforth Creek to be deployed in 2014-15



Location Map HWT Facilities



Grassy Island Site – 30 cfs Design Capacity



Nubbin Slough 7.4 cfs Design Capacity



Ideal Grove 1.3 cfs Design Capacity



Mosquito Creek 6 cfs Design Capacity



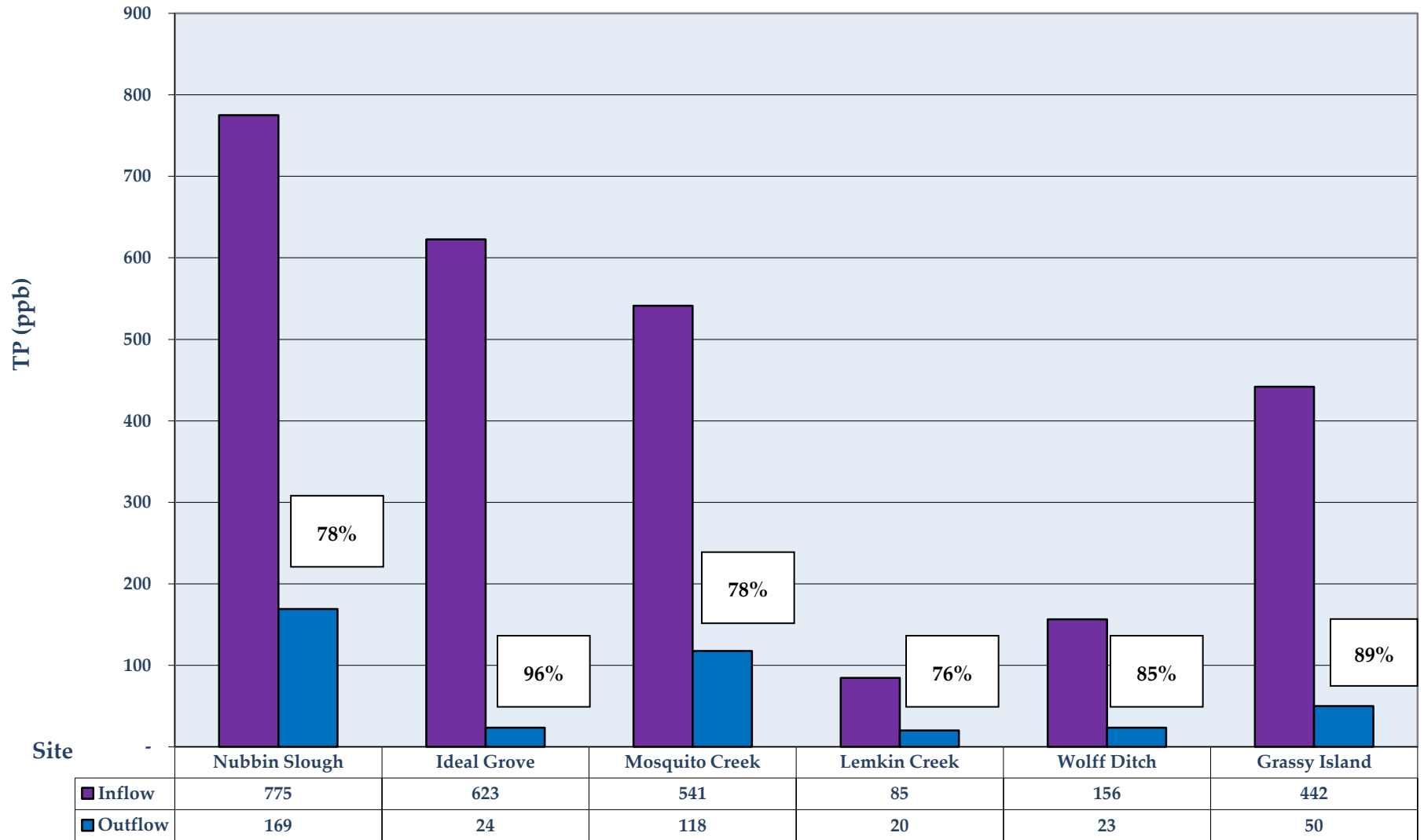
Wolff Ditch 20 cfs Design Capacity



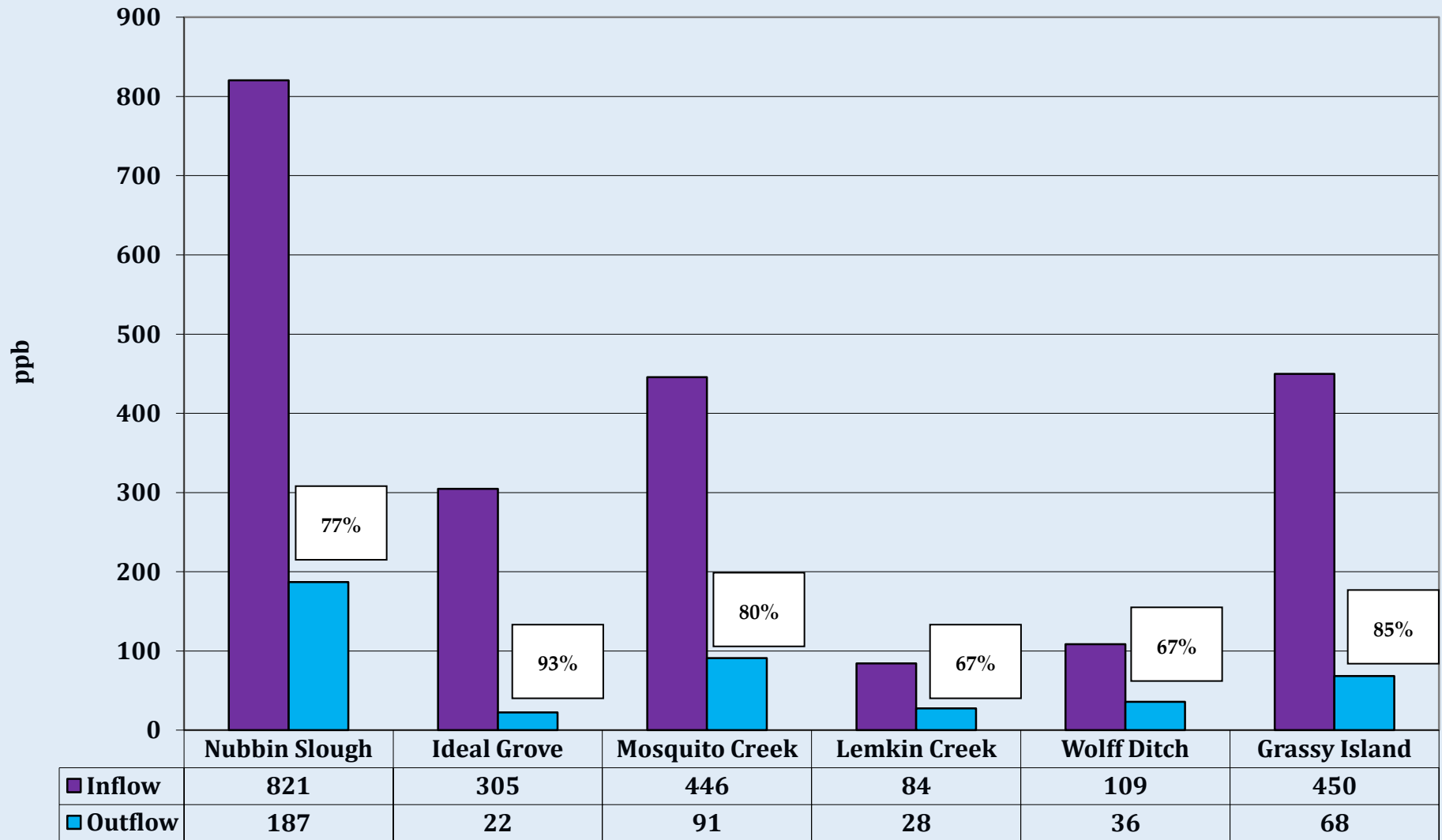
Lemkin Creek – 5 cfs Design Capacity



FLOW WEIGHTED TP CONCENTRATIONS & PERCENT REDUCTIONS 2012-2013

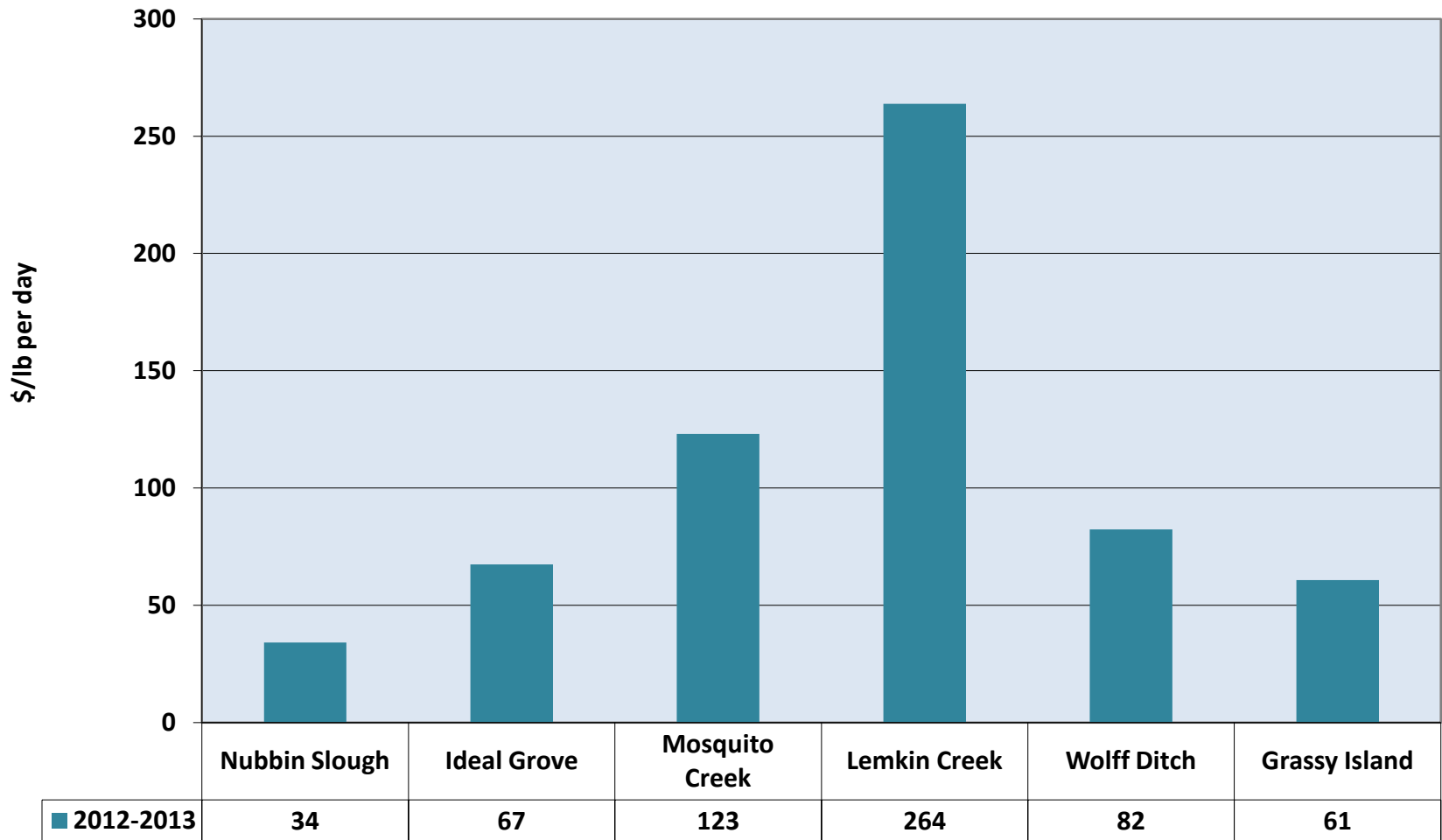


Cumulative Flow Weighted TP Concentrations & Percent Reductions



Comparative Projected Cost Benefit Full Capacity

Present Value Method

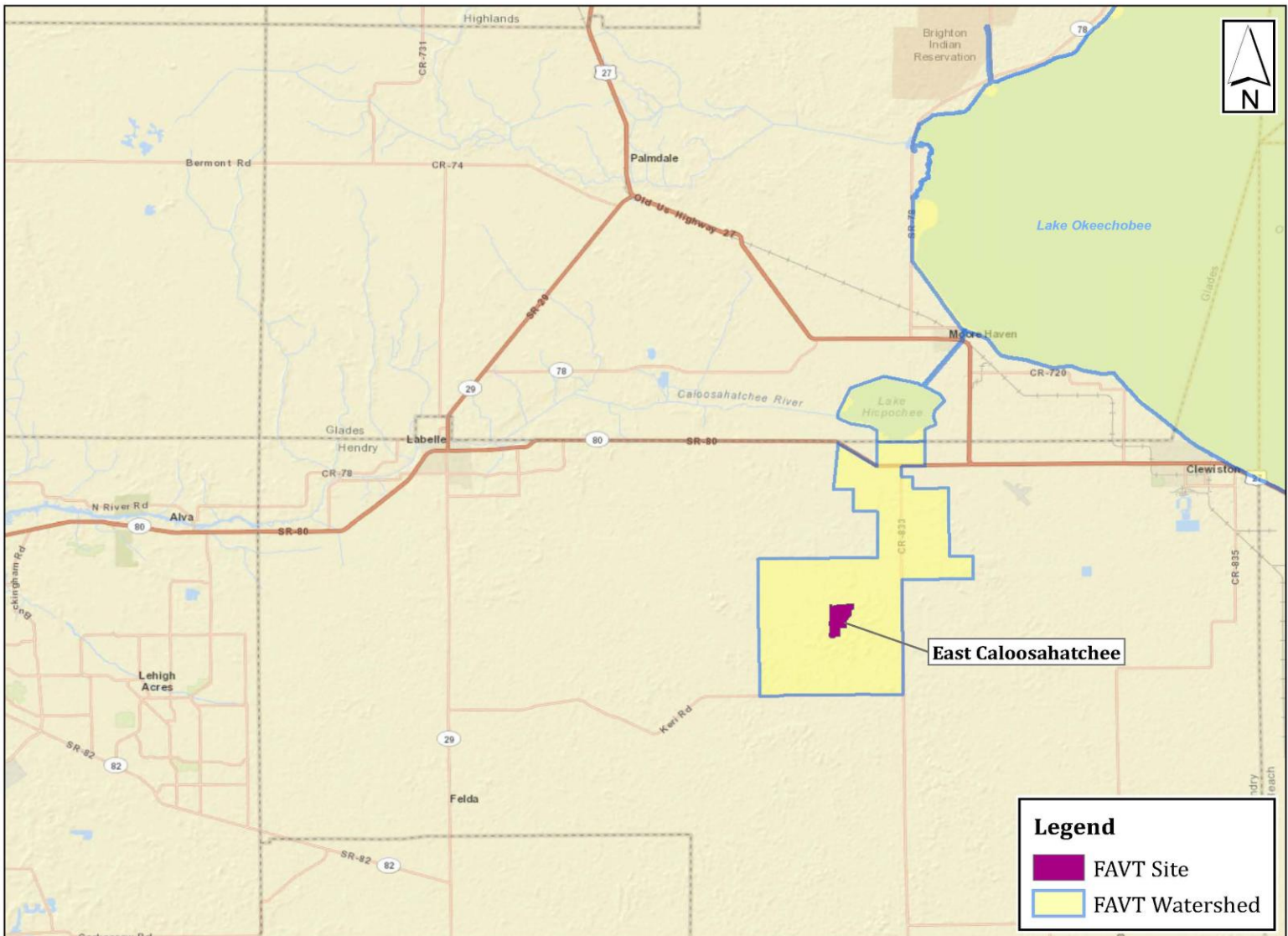


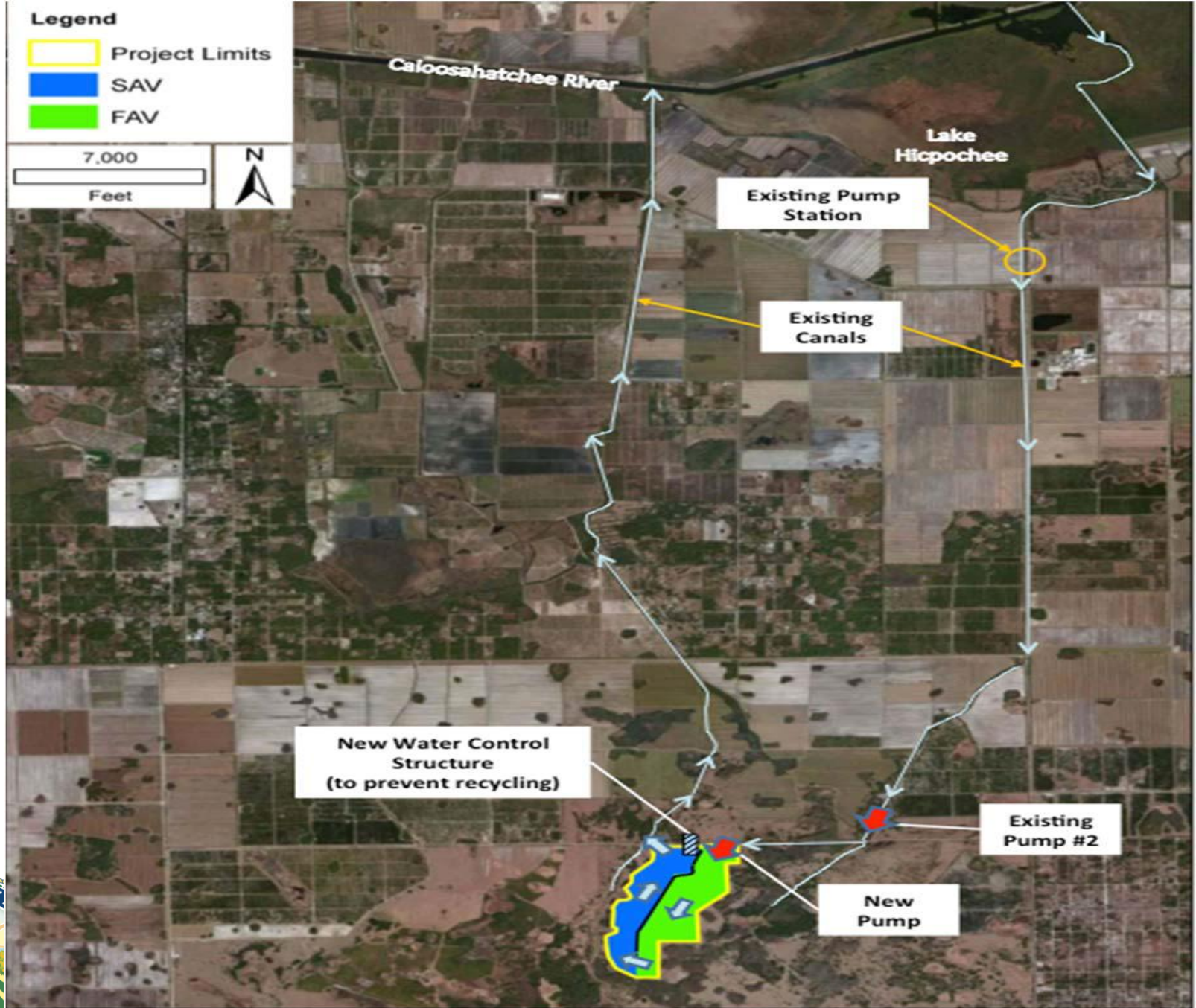
Floating Aquatic Vegetative Tilling (FAVT)

- FAVT is a variation of the HWTT system.
- FAVT has no chemical treatment step.
- The technology uses floating plants to absorb nutrients.
- The mature plant material is then tilled into the soil for permanent storage.
- The process uses a submerged aquatic vegetation step before discharging the treated water.



East Caloosahatchee River FAVT Project – 90 cfs Design Capacity









Questions?

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